Crawfordsville Electric Light & Power

Electric Service Quality Rulemaking
Data Request

Reliability:
The area of reliability will include the examination of sustained outages, momentary outages, restoration of service following a sustained outage and power quality.

1. Is your utility participating in any EPRI (or other organizations) research projects relating to reliability or other service quality issues? If yes, please describe the project(s) you are involved in and how it relates to reliability issues addressed in this section of the data request.

   Crawfordsville Electric Light & Power (CEL&P) is not an EPRI member and is not participating in any EPRI research projects. CEL&P does participate in the American Public Power Association's annual reliability survey. This survey collects data from member utilities and reports on reliability statistics as well as outage causes.

Service Interruption and Outages

Sustained Outages:

1. How does your utility identify an outage? At what point does your utility consider an outage a "sustained" outage versus a "momentary" outage?

   An outage is identified when a customer reports a loss of electricity or data supplied by CEL&P's SCADA system is received indicating such.

   A sustained outage is one in which a customer has a loss of electricity for one minute or longer. A momentary outage is one in which a customer has a loss of electricity for less than one minute.

2. Please describe the response process once an outage is identified. Has your response process changed in any way over the past 5 years? Please explain those changes. What follow-up is done after service has been restored to determine that an individual customer, once again, has electric service?

   Once an outage is identified, the appropriate response personnel are notified by radio, telephone or pager and dispatched to restore service. The extent and cause of the outage are determined and all necessary personnel and equipment are utilized to restore service to as many customers as possible as quickly as possible. At times the problem is repaired and service restored. At other times the cause is isolated, electricity is switched or rerouted to be served from other circuits, and then the problem is repaired.

   CEL&P's response process has changed little over the past 5 years. Standby personnel now have a cellular telephone for their use. Various outage responses and switching scenarios are reviewed by the personnel.

After service has been restored, response personnel check the area and often telephone calls are made to verify that power has been restored. The amount of follow-up that is performed depends on factors such as time of day, extent of outage, cause of outage, etc.

3. Under what conditions or circumstances does your utility report an outage to the Commission? Since January 2001, how often have you reported an outage to the Commission? How often did you provide updates on the outage and the restoration of service?

   CEL&P would report an outage to the Commission under the Commission's guidelines.

   CEL&P has not reported any outages since January 2001.

4. Outages resulting from major weather events can somewhat be anticipated, please describe the weather event outage response from the time a weather situation is known or anticipated to exist through the time the last customer is brought back online. Please describe any facilities and/or procedures that are specifically used in anticipation or during a major weather event in case of widespread outages. Are the facilities and/or procedures different depending on the type of weather event, for example tornado conditions versus a potential ice storm? Are there non-weather related outage situations when these facilities and/or procedures are used?

   CEL&P has found it very difficult to predict damage from storms and severity or extent of storm related outages prior to their occurrence. If a severe weather event if anticipated, response personnel are asked to be on alert for possible after howrs work or to sometimes stay over for a time period to determine if they will be needed.

5. What other government (local, state, federal) agencies or organizations **must** your utility interact or communicate with during outage situations? Specifically, are there other agencies or organizations that your utility is required by law or regulation to report to or communicate with during outage situations?

   Most outage situations do not require CEL&P to interact with other agencies or organizations. On occasion an outage may require CEL&P to interact with the local emergency management agency in the event of a major oil spill if it threatens a water source.

6. Are there other agencies, organizations or companies that your utility typically interacts or communicates with during critical outage situations? Please describe the circumstances and types of interactions or communications that occur.

   CEL&P frequently interacts with the police and/or fire departments. The local emergency management agency and the state emergency management agency might be contacted depending on the extent of the outage. The local radio station and newspaper are also communicated with.

7. What is the policy concerning the use of service crews from other utilities? Has the availability of crews or the willingness of other utilities to make crews available become more limited in

recent years? Are non-utility crews being used or considered more routinely than requesting crews from neighboring utilities?

CEL&P is a member of the Indiana Municipal Electric Association (IMEA) and participates in IMEA's Mutual Aid Program. When service cannot be restored in a reasonable time frame, crews from other municipal utilities would be brought in to assist. Discussions have been held with other non-municipal utilities regarding sharing of crews during severe outages.

CEL&P has not been aware of crews being less available in recent years.

No.

8. What type of information does your utility typically gather/report/analyze regarding sustained outages? How is this information used in the utility?

   Information collected is date and time, location, cause, number of customers affected, time service restored, weather conditions and procedures used to restore service.

   This information is used to calculate reliability statistics, analyze any recurring causes or areas being affected and to determine ways to improve the reliability of the system.

9. Does the utility attempt to quantify the financial costs of outages to customers and local communities? If so, please explain how this is done.

   No.

Momentary Outages:

1. Does your utility identify and track momentary outages? How is a momentary outage identified and/or defined?

   CEL&P does not identify and track momentary outages except when protective equipment operations initiate information on the SCADA system or operations are discovered by other means.

   A momentary outage is one in which a customer has a loss of electricity for less than one minute.

2. What type of information does your utility typically gather/report/analyze regarding momentary outages? How is this information used in the utility?

   Protective device operations and causes, if known, are recorded.

Response personnel often inspect the affected circuit to determine if any cause or damage can be located.

3. Other than the duration of the outage, are there operational or characteristic differences in a sustained outage versus a momentary outage?

   A sustained outage requires immediate attention. The cause of a momentary outage is often very difficult to determine and sometimes cannot be determined.

Performance Measures and Statistics

1. Typical reliability performance statistics include SAIDI, CAIDI, SAIFI, etc. Does your utility routinely calculate these statistics? How is each of the variables in each of the calculations defined? Are these statistics calculated as part of your outage management system or through some other means?

   CEL&P calculates SAIDI and ASAI.

   CEL&P uses the industry definitions for the variables used in the calculations.

   ASAI is calculated in CEL&P's outage tracking software. SAIDI is calculated manually from the data generated for the ASAI report.

2. Are there other reliability statistics your utility calculates? What are they? How are they calculated? How are the variables used to calculate them defined? Are these statistics calculated as part of your outage management system or through some other means?

   No.

3. Does your outage management system calculate other reliability statistics that your utility does not routinely review? What are these statistics? How are they calculated? How are the variables used to calculate them defined?

   CEL&P's outage management system reports outages per circuit and outage causes. This information is reviewed.

4. Reliability statistics are often calculated excluding storms or other major outage events. What are the advantages and disadvantages to excluding storms or other events? Do reliability statistics typically calculated by your utility include or exclude storms or major outage events? If these events are excluded, how do you determine when to exclude an outage event? How do you define the different levels of outage events?

   Excluding storms or other major outage events from reliability statistics will tend to make the results better.

   CEL&P includes storms and other events in its calculation of reliability statistics.

5. How do service territory differences (e.g., rural versus metropolitan, high industrial concentration versus more residential) affect the calculation of reliability statistics? What statistic, if any, is most indifferent to the service area characteristics, in other words, what statistic(s) would most likely allow relevant comparisons among a wide variety of utility types?

   Service territory differences do not affect the method of calculation of reliability statistics but may affect the results. Size of service territory, terrain, customer density, customer base and system design are all factors that can affect the results of the calculations.

   It would be difficult to select a particular statistic or statistics to make relevant comparisons without taking into consideration the many differences between the utilities and the different weather conditions and events they may experience in a given time period.

6. Can the calculation of reliability indices be standardized among Indiana utilities? Please explain how that might be done.

   The calculation of reliability indices could be standardized among Indiana utilities. An industry standard such as the IEEE guidelines could be utilized.

7. Should utility size or other characteristics be taken into consideration when evaluating the reliability statistics from a company?

   Yes. Utility size as well as service territory, terrain, customer density, customer base, system design, weather condition and events and other factors should be taken into consideration when evaluating the reliability statistics from a company.

8. Are performance evaluations and the resulting compensation for any individual, groups of individuals or divisions of the utility tied to reliability statistic results? Please explain what reliability statistics are used and who is evaluated based on the results of those statistics. How are the acceptable levels of performance set and what are those levels?

   Reliability statistics are not used directly in the performance evaluation and resulting compensation for any individual or groups of individuals at CEL&P. These statistics can have an indirect effect in the performance evaluation of certain individuals.

Worst circuits

In order to prevent utilities from having "pockets" of poor service reliability, some state commissions require utilities to report the top 10-25 worst circuits and then address those problem areas.

1. Are there areas of your utility's service territory that are more prone to outages, either sustained or momentary, or other reliability problems, such as power quality, than others? How does your utility address this type of problem?

   CEL&P does not have any particular area that is more prone to outages or other reliability problems than others

2. What are the advantages of identifying the top worst performing circuits of a utility?

   The advantage to identifying the top worst performing circuits is to further scrutinize those circuits to determine methods for improving their reliability and to apply this knowledge to other areas as well.

3. What are the disadvantages of identifying the top worst performing circuits of a utility?

   The disadvantage of identifying the top worst performing circuits of a utility are customer perception that they are not being treated fairly and the possibility that the utility may spend a disproportionate amount of time and resources on these circuits.,

Power Quality

1. Based on your utility's interaction with its customers, is power quality an important concern of your customers? What aspects of power quality are of particular concern (voltage sag, high or low voltage, voltage spikes and transients, flickers, surges, harmonics, other)? Please explain. Are there typical types of customers or customer classes that voice a greater concern about power quality than others? Please explain. How has your utility addressed these concerns?

   Yes.

   All of the aspects of power quality are of concern to CEL&P's customers. As residential, commercial and industrial customers all use more and more computers and electronic equipment, the concern over power quality increases.

   CEL&P personnel discuss power quality issues with concerned customers and work with them to determine the source of the problem. If it a problem on CEL&P's system, it is then corrected. If it is a problem that is caused internally, CEL&P will try to assist the customer.

2. Does your utility have any program or plan in place specifically addressing power quality issues? Please explain. How have these programs or plans changed over the last five years?

   CEL&P personnel discuss power quality issues with concerned customers and work with them to determine the source of the problem. If it a problem on CEL&P's system, it is then corrected. If it is a problem that is caused internally, CEL&P will try to assist the customer.

   When necessary, CEL&P will engage the services of outside consultants to assist.

3. Does your utility collect/track any type of power quality related data? If so, what data is collected and how is it used by the utility?

Yes. CEL&P collects voltage and loading data through the SCADA system. Voltage recordings are collected at customer installations when required as well as information on harmonics.

4. Is power quality data used as a performance measure for compensation for any person(s), groups and/or divisions in your utility? Please explain what data is used and why.

   No.

Leading Indicators

While it's important to restore service as quickly as possible following an outage, when practical, it is better to prevent the outage from occurring.

1. What are good leading indicators of possible service outages? Does your utility routinely monitor specific aspects of the electric operations or system with the goal of preventing service outages? What do you monitor and why?

   Some good leading indicators of possible service outages are nuisance trips and voltage or power quality problems.

   CEL&P monitors protective device operations and customer inquiries or reports with the goal of preventing service outages.

2. Does your utility have a routine inspection and maintenance plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

   CEL&P has an in-house tree trimming program designed to keep trees away from power lines. The substation personnel follow a regular substation maintenance program. Infrared inspections are also made on substation equipment, switches and other major items.

3. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

   No.

4. Has your utility made any study or analysis as to how successful your inspection and maintenance plan/procedure has been in preventing service outage? Please explain.

   No.

5. Does your utility have a vegetation management plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

   CEL&P has an established four year trim cycle as well as a stump treatment program. A tree replacement program has also been implemented.

6. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

   Yes. The chemical treatment program and tree replacement program were started within the past five years.

7. Has your utility made any study or analysis as to how successful your vegetation management plan/procedure has been in preventing service outage? Please explain.

   No.

8. Does your utility identify/track the age of equipment used in the production and delivery of electricity to the customer? Why or why not?

   The age of major pieces of equipment such as transformers, poles and substation equipment is identified. It is utilized for determining maintenance and replacement needs.

9. Could equipment age be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

   Equipment age can be a leading indicator of potential service outages. The age of underground cable and poles could be an effective indicator of potential service outages. The age of transformers and substation equipment could be an indicator depending on the maintenance performed on the equipment and the service conditions it has been exposed to.

10. Does your utility track equipment used in the production and delivery of electricity to the customer to identify equipment that tends to have a premature or unpredicted failure rate or degraded performance level? Why or why not?

    Yes, as much as possible and practical. This is a good way to improve reliability.

11. Could the identification of equipment with premature or unpredicted failure rate or degraded performance level be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

    Yes. Equipment could be repaired or replaced prior to failure.

12. Are there any other methods (e.g., infra-red inspections or radio frequency inspections) you carry out to help maintain and/or improve system reliability? Please describe the methods you use.

    CEL&P conducts infrared inspections on substation equipment, switches and other major items. Substation equipment is maintained under a regular program. Relays are tested routinely.

Setting Performance Standards

1. Does your utility set any type of performance standards relating to service reliability and quality as a method of determining employee and/or division performance for compensation purposes? What are these standards? How are they measured? How do they affect the overall compensation for a(n) employee and/or division?

   No.

2. Could similar standards be set by the Commission to help evaluate and compare the service quality of Indiana utilities? Please explain why or why not.

   This would be difficult to make valid comparisons given to vast differences in the utilities such as service territory, terrain, customer density, customer base, system design, weather condition and events.

3. If these standards are not appropriate to help evaluate and compare the service quality of Indiana utilities, please suggest some standards that would be appropriate.

   CEL&P does not have a response.

4. To date there has been little or no use of I. C. 8-1-2.5 by utilities to propose performance based rates that would tie utility incentives/penalties to reliability and other measurable performance criteria. Is there a problem with how I. C. 8-1-2.5 is structured that makes it inappropriate or ineffective as a vehicle for performance based rates? Please explain. From your perspective (utility, customer group, other) what are the pros and cons of performance based rates?

   As a municipal electric utility, CEL&P exists to provide economic benefit to our customers. We are dedicated to supplying and delivering affordable and reliable services to our customers. Our directive is to meet this charge. If we do not, our customers will elect officials who will appoint Board members who will shape up or replace personnel who will do so. This is sufficient incentive to bring about great results.

Safety:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to safety? If yes, please describe the project(s) you are involved in and how it relates to safety issues addressed in this section of the data request.

   No. CEL&P does submit safety data to the American Public Power Association and the National Safety Council.

2. What actions to ensure public safety are taken, both by the utility and other emergency resources, when a live power line has come down? Please explain the activities from the time a live power line is reported down until it has been repaired or rendered safe.

   When a live power line is reported down by the police or fire department, they will normally safeguard the line until utility response personnel can reach the scene. When the public reports a live power line is down, utility personnel advise the person to stay clear of the area and safeguard the line until utility response personnel can reach the scene. Response personnel are dispatched to the scene immediately to isolate the line and repair the problem.

3. In situations where live power lines may be down in multiple locations, how is public safety ensured?

   Where live power lines may be down in multiple locations, multiple crews will be dispatched and/or an attempt to determine the severity of the situation is made and a priority response is formulated.

4. In critical weather situations where widespread areas may experience outages or down power lines, is there any central coordination (beyond each individual utility) of the restoration of service and the repair of down lines? Please explain who does the coordination and what organizations are involved.

   Restoration of service is left to each individual utility.

5. What could be done to improve the public awareness of the hazards that may exist as a result of weather related power outage? How does your utility inform customers of these types of hazards?

   Public awareness programs can be utilized to inform the public.

   CEL&P utilizes various methods including school presentations, radio announcements and ads, newspaper articles and ads, billboards, bill stuffers, fairs and Hazard Hamlet presentations.

6. What is the most typical accident involving utility facilities that happens to utility personnel and to non-utility/customers/the general public? What has your utility done to help try and alleviate these types of accidents?

   The most typical accident for utility personnel is strains. CEL&P has utilized mor tools and devices to help reduce and eliminate physical stresses.

   The most typical accident for non-utility/customers/the general public is auto accidents. CEL&P has utilized more underground service and attempt to locate poles in more protected areas.

7. What is the current average term of employment for service and line crew personnel? Does your utility provide on-going safety training for your line and service crews? Please explain the types of training these crews receive.

   The average term of employment for service personnel is 14.3 years and for line crew personnel is 17.5 years.

   Specialized training for the various specialties is given through IMEA, TVPPA and independent providers. Training includes lineman apprentice through advanced lineman, tree trimming, metering, substation maintenance, relay testing, safety and other items. Routine safety training is provided at least every sixty days.

8. Commission rules currently require utilities to report accidents resulting in death. Do you think this rule provides useful information to the Commission? Please explain. Do you have any recommended changes that would make this rule more useful? Please explain.

   The reporting of accidents resulting in death may provide useful information to the Commission.

9. What other organizations or agencies must you report to when there has been an accident, injury or fatality? Please explain what must be reported, under what circumstances and in what time frame from when the incident occurred.

   Accidents resulting in death or hospitalization of three or more employees for eight hours or more must be reported to IOSHA. Accidents requiring medical attention must be reported to our workers compensation provider. Fatalities must be reported immediately. Information such as nature of injury, number of personnel involved, cause, etc. is reported.

10. The Commission is aware that in preparation for Y2K utilities developed emergency operating plans (EOP). Does your utility continue to maintain and update an emergency operating plan? What circumstances or conditions is the EOP designed to cover? Is the EOP prepared and/or modified completely by utility personnel or do other organizations or agencies have input to the plan? Please explain how outside sources have input to the EOP. Does your utility routinely run drills on the EOP to check the effectiveness of the plan and to identify areas, which need improvement? Please describe your drilling procedure.

    CEL&P has an emergency operating plan.

Customer Service:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to customer service? If yes, please describe the project(s) you are involved in and how it relates to customer service issues addressed in this section of the data request.

   No.

2. Please describe your utility's customer service philosophy and how your utility implements this philosophy.

   One of CEL&P's core values is our customers. Our customers are our neighbors. We focus on delivering services that meet their needs now and in the future. We provide service levels that exceed their expectations.

3. How many employees are directly engaged in customer service types of activities and where do they fit in the utility's overall organizational structure? An organizational diagram maybe useful in responding to this question.

   CEL&P believes that all of its employees are engaged in customer service activities. Of these there are ten office employees who have direct contact daily as well as three meter and service personnel.

4. Assuming there are a variety of activities that can be considered "customer service" please describe the different types of activities your utility classifies as "customer service" and how many employees are engaged in each activity.

   CEL&P considers the following activities:

   Billing and accepting payment – 6 clerks and 2 accounting personnel
   Meter reading – 2 employees
   Service calls (offs/ons) – 1 employee
   Inspection of services – 1 inspector
   Service and power quality questions – 4 engineering/meter personnel
   Other services – clerks and other personnel

5. Please provide a brief description of the qualifications required by employees engaged in the various customer service activities described in response to the previous question. Have these requirements and protocols changed over the past five years? Please explain.

   The employees must be a high school graduate or possess a GED. They must be capable of operating a computer and calculator. Most importantly, they must be polite and must be able to interact with the public in a manner that is helpful and courteous.

6. Please describe any equipment and/or facilities that are specifically designed to help the utility to communicate with its customers and to enhance customer service.

   CEL&P utilizes a drive-up window, two night depository boxes, a web site, phone system on hold messages, bill stuffers, a quarterly newsletter and an automated notification system for non-pays to enhance customer service. In addition, CEL&P offers a balanced billing program, ACH payments and credit card payment.

7. How does your utility evaluate the quality and performance of your customer service activities?

CEL&P conducts quarterly customer satisfaction surveys to determine the quality and performance of its customer service activities.

8. Is the compensation of employees, groups of employees or divisions tied to customer service performance? Please explain how this is done and whom this process affects.

   No.

9. What methods or statistics are used to evaluate customer service performance? Please provide a description of the methods or statistics used.

   The results of the quarterly customer satisfaction surveys is used to evaluate customer service performance. CEL&P is also able to track the number of customer account corrections and billing corrections.